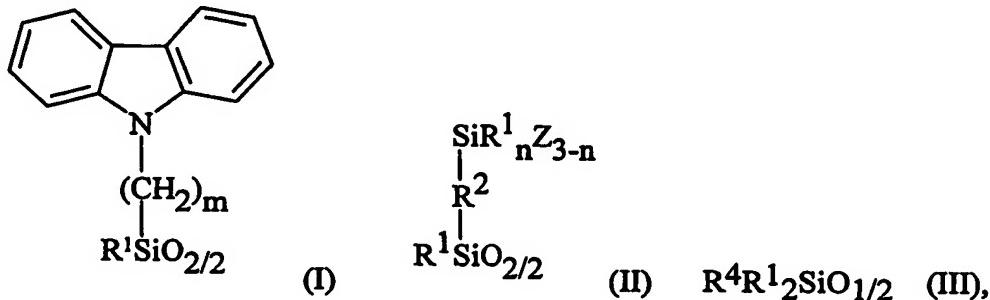


That which is claimed is:

1. A carbazolyl-functional linear polysiloxane comprising from 30 to 99 mol% of units having the formula I, from 1 to 70 mol% of units having the formula II, and units having the formula III:

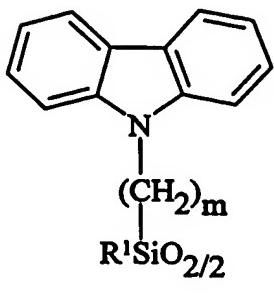


wherein  $\text{R}^1$  is  $\text{C}_1$  to  $\text{C}_{10}$  hydrocarbyl free of aliphatic unsaturation;  $\text{R}^2$  is  $-\text{CH}_2\text{-CHR}^3-$  or  $-\text{CH}_2\text{-CHR}^3\text{-Y}-$ , wherein Y is a divalent organic group and  $\text{R}^3$  is  $\text{R}^1$  or -H;  $\text{R}^4$  is  $\text{R}^1$ ,  $-(\text{CH}_2)_m\text{-Cz}$ ,  $-\text{CH}_2\text{-CHR}^3\text{-SiR}^1_n\text{Z}_{3-n}$ , or  $-\text{CH}_2\text{-CHR}^3\text{-Y-SiR}^1_n\text{Z}_{3-n}$ , wherein Cz is N-carbazolyl; Z is a hydrolysable group; m is an integer from 2 to 10; and n is 0, 1, or 2.

2. The carbazolyl-functional linear polysiloxane according to claim 1, wherein the polysiloxane comprises from 75 to 99 mol% of units having the formula (I) and from 5 to 50 mol% of units having the formula (II).

3. The carbazolyl-functional linear polysiloxane according to claim 1, wherein the polysiloxane contains up to 15 mol% of siloxane units having formulae selected from  $\text{R}^1\text{HSiO}_{2/2}$ ,  $\text{HR}^1_2\text{SiO}_{1/2}$ ,  $\text{R}^1_2\text{SiO}_{2/2}$ , and combinations thereof, wherein  $\text{R}^1$  is  $\text{C}_1$  to  $\text{C}_{10}$  hydrocarbyl free of aliphatic unsaturation.

4. A carbazolyl-functional linear polysiloxane comprising at least 30 mol% of units having the formula I and units having the formula IV:



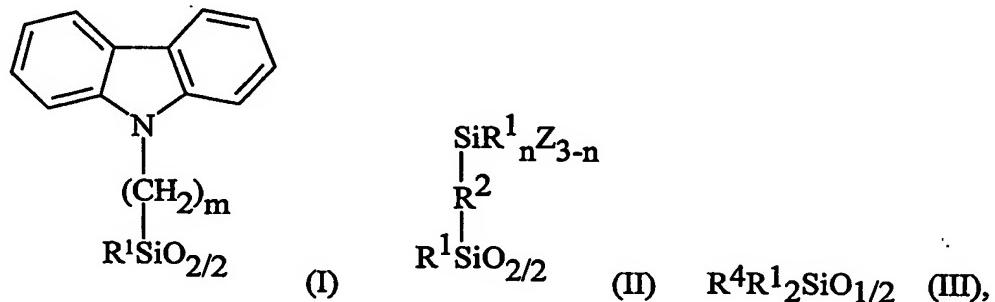
wherein  $R^1$  is  $C_1$  to  $C_{10}$  hydrocarbyl free of aliphatic unsaturation;  $Z$  is a hydrolysable group;  $m$  is an integer from 2 to 10; and  $p$  is 0, 1, or 2.

5. The carbazolyl-functional linear polysiloxane according to claim 4, wherein the polysiloxane contains at least 70 mol% of units having formula I.

6. The carbazolyl-functional linear polysiloxane according to claim 4, wherein the polysiloxane contains up to 15 mol% of siloxane units having formulae selected from  $R^1\text{HSiO}_{2/2}$ ,  $HR^1\text{SiO}_{1/2}$ ,  $R^1\text{SiO}_{2/2}$ , and combinations thereof, wherein  $R^1$  is  $C_1$  to  $C_{10}$  hydrocarbyl free of aliphatic unsaturation.

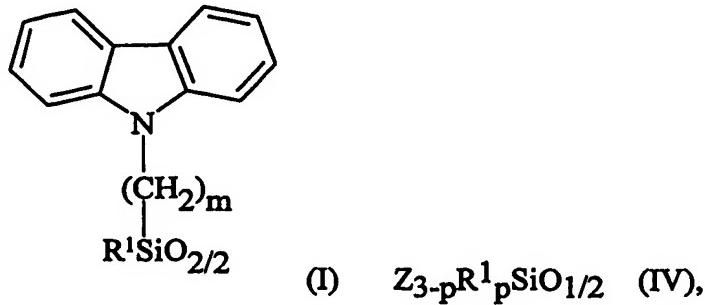
7. A silicone composition comprising:

(A) a polysiloxane selected from (i) at least one carbazolyl-functional linear polysiloxane comprising from 30 to 99 mol% of units having the formula I, from 1 to 70 mol% of units having the formula II, and units having the formula III:



wherein  $R^1$  is  $C_1$  to  $C_{10}$  hydrocarbyl free of aliphatic unsaturation,  $R^2$  is  $-\text{CH}_2\text{-CHR}^3-$  or  $-\text{CH}_2\text{-CHR}^3\text{-Y-}$ , wherein  $Y$  is a divalent organic group and  $R^3$  is  $R^1$  or  $-H$ ,  $R^4$  is  $R^1$ ,  $-\text{(CH}_2)_m\text{-Cz}$ ,  $-\text{CH}_2\text{-CHR}^3\text{-SiR}^1_n\text{Z}_{3-n}$ , or  $-\text{CH}_2\text{-CHR}^3\text{-Y-SiR}^1_n\text{Z}_{3-n}$ , wherein  $Cz$  is  $N$ -

carbazolyl, Z is a hydrolysable group, m is an integer from 2 to 10, and n is 0, 1, or 2, and (ii) at least one carbazolyl-functional linear polysiloxane comprising at least 30 mol% of units having the formula I and units having the formula IV:



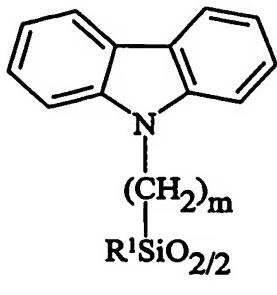
wherein R<sup>1</sup> is C<sub>1</sub> to C<sub>10</sub> hydrocarbyl free of aliphatic unsaturation, Z is a hydrolysable group, m is an integer from 2 to 10, and p is 0, 1, or 2, and (iii) a mixture comprising (i) and (ii); and

(B) an organic solvent.

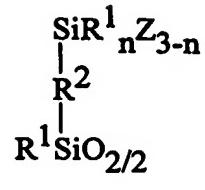
8. The silicone composition according to claim 7, wherein the polysiloxane (A) is (A)(ii) wherein p has a value of 2, and further comprising a cross-linking agent having the formula R<sup>5</sup><sub>q</sub>SiZ<sub>4-q</sub>, wherein R<sup>5</sup> is C<sub>1</sub> to C<sub>8</sub> hydrocarbyl or halogen-substituted hydrocarbyl, Z is a hydrolysable group, and q is 0 or 1.

9. An organic light-emitting diode comprising:  
 a substrate having a first opposing surface and a second opposing surface;  
 a first electrode layer overlying the first opposing surface;  
 a light-emitting element overlying the first electrode layer, the light emitting element comprising  
 a hole-transport layer and  
 an electron-transport layer, wherein the hole-transport layer and the electron-transport layer lie directly on one another, and one of the hole-transport layer and the electron-transport layer comprises a carbazolyl-functional polysiloxane selected from  
 a cured carbazolyl-functional polysiloxane prepared by curing a silicone composition comprising (A) a polysiloxane selected from (i) at least one carbazolyl-functional linear polysiloxane comprising from 30 to 99 mol% of units having the

formula I, from 1 to 70 mol% of units having the formula II, and units having the formula III:



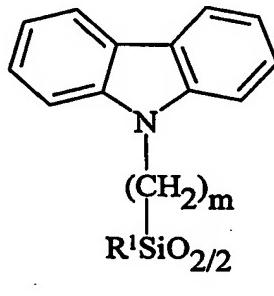
(I)



(II)



wherein R<sup>1</sup> is C<sub>1</sub> to C<sub>10</sub> hydrocarbyl free of aliphatic unsaturation, R<sup>2</sup> is -CH<sub>2</sub>-CHR<sup>3</sup>- or -CH<sub>2</sub>-CHR<sup>3</sup>-Y-, wherein Y is a divalent organic group and R<sup>3</sup> is R<sup>1</sup> or -H, R<sup>4</sup> is R<sup>1</sup>, -(CH<sub>2</sub>)<sub>m</sub>-Cz, -CH<sub>2</sub>-CHR<sup>3</sup>-SiR<sup>1</sup><sub>n</sub>Z<sub>3-n</sub>, or -CH<sub>2</sub>-CHR<sup>3</sup>-Y-SiR<sup>1</sup><sub>n</sub>Z<sub>3-n</sub>, wherein Cz is N-carbazolyl, Z is a hydrolysable group, m is an integer from 2 to 10, and n is 0, 1, or 2, (ii) at least one carbazolyl-functional linear polysiloxane comprising at least 30 mol% of units having the formula I and units having the formula IV:

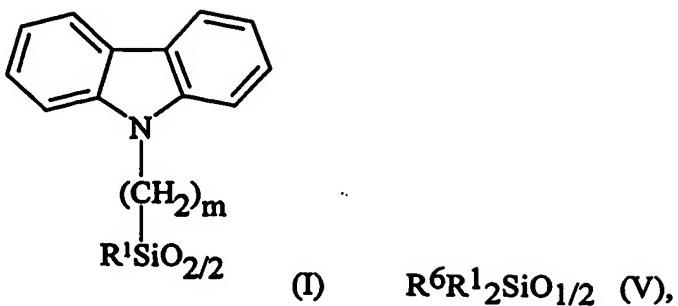


(I)



wherein R<sup>1</sup> is C<sub>1</sub> to C<sub>10</sub> hydrocarbyl free of aliphatic unsaturation, Z is a hydrolysable group, m is an integer from 2 to 10, and p is 0, 1, or 2, and (iii) a mixture comprising (i) and (ii), and (B) an organic solvent, and

at least one carbazolyl-functional linear polysiloxane comprising at least 50 mol% of units having the formula I, and units having the formula V:



wherein  $R^1$  is C<sub>1</sub> to C<sub>10</sub> hydrocarbyl free of aliphatic unsaturation, m is from 2 to 10, and  $R^6$  is  $R^1$  or -(CH<sub>2</sub>)<sub>m</sub>-Cz, wherein Cz is N-carbazolyl; and a second electrode layer overlying the light-emitting element.

10. The organic light-emitting diode according to claim 9, wherein the hole-transport layer is a carbazolyl-functional polysiloxane.

11. The organic light-emitting diode according to claim 9, wherein the electron-transport layer is a carbazolyl-functional polysiloxane.